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ABSTRACT

This project sought to develop a model that could be used to gather information on employer and student needs in Mesa County and Western Colorado in order to enhance and validate vocational education offerings. To meet the objectives of the study, a comprehensive review of literature regarding existing models and/or programs, along with numerous interviews with persons directly involved with data collection were conducted. In addition, local agencies that could deliver the existing data were contacted in order to establish localized primary sources. The recommended information system, based on the findings of this research, is designed to facilitate an ongoing program. The model developed as a result of the research involves the following components: (1) identifying regions into which trainees will likely go when seeking employment; (2) identifying current employer needs; (3) researching new business and industry; (4) assessing potential student interests, needs, and capabilities; and (5) taking into account general population trends. (Appendixes to the document include a map showing Colorado planning regions, a student flowchart (showing path through vocational program), and a twelve-page list of selected references and resource materials). (KC)

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INTRODUCTION

In November, 1983 a small group of persons representing a cross section of the citizens of Grand Junction, Colorado asked to meet with Mesa College officials for the purpose discussing ways in which there could be a cooperative effort directed toward strengthening and expanding vocational-technical education in the greater Grand Junction-Mesa County region. As a result of that and subsequent meetings it was recommended that if local, regional or state support was to be requested it needed to be based upon a meaningful and accepted planning process which included means for obtaining current data relevant to the needs that vocational-technical education was designed to meet. "A process to determine the kinds and numbers of job opportunities available at any given time is essential if students are going to be able to successfully find employment upon completion of training. A process which will permit obtaining such information from existing labor market and from new business and industry moving into an area, is very critical to planning for meaningful training and education."

(Philosophy, Premises and Functions of Vocational-Technical Education, pg. 2; A. D. Anderson, Director-Vocational Education Mesa College and H. D. Telinde, Director-Vocational Education, Colorado Mountain College; September, 1983)

A proposal, seeking funding assistance for developing a planning process useable in Northwestern Colorado was developed and submitted to the Colorado State Board for Community Colleges and Occupational Education (SBCCOE) in February 1984.

It was proposed that funding assistance and a cooperative effort could result in accomplishing the following objectives:

1. Review the results of existing surveys and studies.
2. Identify those parts of such data which have relevance to identifying job-employer needs.
3. Conduct additional individual and job-employer needs surveys to obtain information that is yet needed.
4. Assemble appropriate data from all sources in useable format.
5. Finalize the design of an information system which will provide key data by June 30, 1984, in a format which can be used as a basis for the orderly planning and development of comprehensive vocational education programming presently and in the future.
6. To provide a basis for developing requests for funding commitments for facilities and equipment due by October 1, 1984.

An important part of planning and subsequently offering a comprehensive, meaningful and cost effective program of vocational-technical education is to obtain information on the current and prospective labor market situation. This provides a dependable source of data relative to the kinds of jobs in which trained persons might successfully obtain employment. The availability of useable information is essential prior to the time that any curricular, equipment, facility or staff planning decisions can be realistically completed. It is not in the best interests of students nor is it economically possible to implement vocational-technical programs which prepare persons for jobs that do not exist.

A system which provides employment needs data has several uses. These include, among others, providing a basis for:

- Determining the need for training. This provides one means by which existing vocational programs can be reviewed and new programs can be identified and planned for.

- Providing an initial source list of employers from whom additional data might be obtained relative to specific job skills and competencies that are or will be needed by employees. This also facilitates curricular development and review.

- Providing a source of information about projected business and industrial growth, new and emerging occupational fields, and new technological applications which will impact vocational-technical education. So too, this provides for long range planning.

- Providing documentation which supports the need for vocational education programming and related support services at the local level to state level control agencies.

- Involving the business and industrial community and citizens in the planning process.

- Developing a comprehensive curricular pattern which will be flexible enough to serve a large number of students. At the same time, this meets the needs of the community. It is important not to be dependent upon a single type of business or industry.

PROBLEM

There have been numerous attempts in the past to gather data pertaining to projected growth and economic impact. In most instances, though, the information acquired was redundant. These studies did serve the limited purpose for which they were intended. Whether the data yielded were fully used was doubtful. A review of some of these studies revealed that only one study conducted in the past five years attempted to draw attention directly to the projected implications for training and education. Even in this instance a lot of interpretation was left to the judgement of the reader. It should be stressed, however, that previous surveys were neither designed nor conducted for the specific purpose of providing data to support determining the need for training and education. Still, previously gathered data is, to a certain extent, useful if it is systematically reviewed and consistently interpreted.

A second problem with regard to data gathered in previous "need" or "impact" surveys was that the last endeavor of any import was conducted in 1980-81. The situation on the Western Slope of Colorado, and thus in many of the individual counties and communities, has changed radically - literally, e.g. the oil shale fiasco. Much of the information previously gathered relative to that impact has little current relevance.

There has been no successful attempt to implement a unified information system which would assemble the information obtained from the numerous surveys previously conducted into a single set of data which would be specifically useful for educational planning. This is, in part, reflected through the relatively traditional pattern of vocational-technical offerings throughout the region. There is only minimal

evidence of programs that would relate to "supportive" or "high" technology. Most training has its place and there is nothing wrong with traditional programs if they continue to serve a need - to prepare persons for employment opportunities that presently exist, or for opportunities which data shows soon will exist. A concerted attempt had to be made to determine if there were, or soon would be, employment opportunities in other than those fields for which training and education was currently being provided.

There were two areas in which there was little evidence of any previous survey attempts being made. The first was the constituency. Persons as individuals often are able to provide some very valuable input into a planning system. Data obtained through a personal needs assessment can provide information relative to age, length of residency, skill and personal interests and needs, employment status, previous educational background, best class scheduling times and a wealth of other information.

The second area which needed attention was relative to the need for trained workers as new business and industry relocates. Relocation decisions often include, among other things, a positive assessment regarding existing and potential educational and training capabilities. Data for planning is needed so that educational and training programs can attempt to meet expectations and also plan a significant role in economic development.

The overall problem as envisioned was one of how to best use existing data and obtain additional job employer needs information which can be used to enhance orderly and meaningful vocational-technical education program development programs that should be emphasized. This information

is crucial in order to target the current and the new program effort that should be implemented. Moreover, this documentation is necessary when planning and requesting facilities, equipment and staff.

Early in the project it was determined that most existing models would not be workable in the Mesa County setting. Due to substantial differences in organizational structure among governmental agencies, and the philosophies of the personnel involved, systems that have been successfully implemented in other regions did not "fit" neatly into the existing conditions of Mesa County. This was not an extraordinary finding because the reverse might also be true; that which is workable in Mesa County might not necessarily be workable elsewhere.

There was one further problem area. If the model process was to be of maximum usefulness complication had to be avoided and the most simplistic approach to obtaining and using necessary information had to be sought. The system, to be useful had to be easy to use.

REVIEW OF LITERATURE AND OTHER MODELS

To meet the objectives of the study a comprehensive review of literature regarding existing models and/or programs, along with numerous interviews (See Appendix "A") with persons directly involved with data collection was conducted. Also, persons having direct access to sources of data were interviewed to further investigate the reliability of the data. A closer examination of the sources of data allowed identification of how relevant the information was to job and employer needs. Local agencies that could deliver this existing data were then contacted in order to establish localized primary sources.

The recommended information system, based upon the findings of this research, is designed to facilitate an "on-going" program. The criteria for selection of data and data sources is based upon the realities of the problems peculiar to Mesa County and Western Colorado.

During the project it became apparent that there were a variety of needs assessment models being used. It also became apparent that in Colorado vocational administrators did not have a uniformly adopted system for determining needs of employers or students. The following are examples of needs assessment models that have been used (or are currently being used) by various administrators for vocational education planning.

SUMMARY OF SELECTED ASSESSMENT MODELS OR SYSTEMS

I. California Community Colleges. Needs Assessment Handbook.

The purpose of the Calfornia Community Colleges Needs Assessment Handbook is to assist local administrators in assessing the needs and preferences of individuals regarding occupational education. Without knowing what student needs and interests are any sort of attempt at determining curriculum offerings would be futile.

The handbook gives a very basic explanation of in-house, external, and a combination of in-house and external needs assessment. Included in this portion of the book are advantages and disadvantages of doing a self directed in-house needs assessment.

If conducting an in-house assessment the following phases and steps must be followed:

Phase I: Planning and Decision-making

Step 1: Whom do we involve?

Step 2: What do we want to find out?

Step 3: How are we going to ask our question?

Step 4: Precisely what are we going to ask?

Step 5: How do we organize our questions?

Step 6: Whom do we ask?

Phase II: Implementing and Coordinating

Step 7: Recruiting and training staff

Step 8: Scheduling

Step 9: Supervising the assessors

Phase III: Analysis and Reporting

Step 10: What did we find out?

Step 11: What does it mean?

Step 12: How do we report our findings?

Step 13: What kind of publicity would be appropriate?

Also discussed in the handbook was the option of contracting needs assessment with an outside organization. Advantages and disadvantages of such an approach are addressed in addition to topics of selecting a firm and working with an outside contractor.

II. Dallas Model

The purpose of the Dallas planning process was to assist the Board of Education and administration in assessing needs, prioritizing needs, and the allocation of resources as part of the annual budgeting process. There were two major groups involved with the board.

a. Program Managers - appointed for each of the district's long range goals, responsible for evaluation and development of objectives and program budgets.

b. Operation Involvement - a committee of teachers, students, administrators, parents, and community persons which assesses needs, prioritizes them and allocates resources among programs.

Program managers monitored the progress of their portion of the budget (evaluation, needs assessment, goal determination, cost determination, feasibility study, prioritization, resource allocation, operational objectives, public hearing, and adoption by Board of Education) throughout the process.

Operation Involvement representatives were involved in four different ways.

(1) Hold small monthly group meetings to study and discuss goal priorities and costs.

(2) Conduct a needs assessment survey.

(3) The entire Operation Involvement group met before each of the board's weekend retreats on the budget to establish a concensus on recommendations to be made to the board.

(4) Representatives of the small groups attended two of the board's budget retreats during Phase 2 to present goal priorities, and during Phase 6 to recommend priorities for goals related to budget.

III. Fresno Planning Model

During the needs assessment and goal determination phases, activities center on a one-day community conference. At this meeting participants express their views about what things are preventing the schools from operating optimally, and what the schools should be doing for the students. A small task force of teachers and administrators classify, prioritize and rewrite the expressed community needs into goal statements.

After the goals and needs have been reviewed by the school board, high priority goals are assigned to teams of administrators and teachers who write objectives. These objectives should answer these questions:

a. Who will do what?

b. How well?

c. Under what conditions?

Using problem solving techniques, programs were designed to meet these objectives. Since the objectives state what the expected outcomes should be, implementation of the project was facilitated.

IV. Larimer County, Colorado Model

This model utilized local leadership, combined State and local resources; as well as the participation of the agencies in the jurisdiction providing employment and training program services to strengthen emphasis on placement of students after training. The basic partnership was between Larimer County Private Industry Council, Larimer County Board of Commissioners (local Service Delivery Area); State of Colorado; Department of Labor and Employment, Division of Employment and Training; The Governor's Job Training Office; and Larimer County Area Vocational Technical School.

Basic core partnerships were central to the coordinated model and required, in addition to local agreements, a strong set of State cooperative agreements. Other agencies complemented the core such as Department of Social Services, local school districts, Youth Services Bureau (a local agency for young minor offenders and intervention services for high risk youth), Department of Corrections, Vocational Rehabilitation, community based women's resource centers, Veterans Services (county) and others. The integrated delivery system approach emphasized the utilization of all publicly funded resources available for employment and training in the jurisdiction, cooperative job development through a managed network, carefully planned public relations for cooperating agencies, and a single employer relations program for all participating organizations. As a result, the business community, consequently, was presented with a simple way of using the local employment system. This also provided the widest employment market for participants.

Coordination was achieved through structured written agreements stipulating roles for each participating agency. Common goal setting was encouraged. Planning and program operations were unified with respect to the County training program and the State Wagner Peyster and JTPA programs.

The focus throughout was directed toward a results-oriented, functional cooperation designed to foster the development of local human resources, with service emphasis on those individuals who must be assisted to gain competitive status in the market place. The Private Industry Council provided local planning and direction of the coordinated effort and also provided a forum for employers to have direct input into direction of the local labor exchange programs through the employers subcommittee. The PIC annually conducted a broad based employer conference to solicit input.

Each participating organization retained its independence and legislative authority while at the same time becoming functionally integrated for the purpose of local delivery of service and meeting local needs. A strong continuum of service for clients to progress toward independence from community support systems has been developed through interdepartmental and agency planning.

V. Phi Delta Kappa Model

The Phi Delta Kappa model included a three phase planning process.

Phase I - Goal Determination and Needs Assessment

a. Educational goals were ranked by the Community committee

b. Perceived levels of school performance in meeting the goals were determined by the community, professional staff, and students.

c. Needs were ranked in priority order.

Phase II - Performance Objectives

a. Professional staff were trained to write performance objectives.

b. Performance objectives were written for current programs of instruction relating to goals.

Phase III - Implementation

a. Program objectives are developed for new programs to meet goals.

b. A management design is developed for efficient utilization of resources needed to meet the performance objectives of the district.

The purpose of the planning process is to allow a district to follow a series of strategies that will develop community-ranked goals and teacher-developed objectives. This planning approach was developed to provide a logical and orderly process that would involve community, professional staff, and students in:

a. Ranking of educational goals in order of importance.

b. Assessing how well current educational programs are meeting these goals.

c. Development of program level performance objectives designed to meet the priority ranked goals by professional staff.

VI. Worldwide Model

The Worldwide needs assessment model provided one alternative procedure for identifying needs. The model outlined how needs assessment could be managed and possible activities for collecting data.

Briefly, there were two groups involved:

a. Quality Assurance Committee - a large representative group whose function was to plan and manage the needs assessment and identify and document the needs.

b. Educational Needs Assessment Committee - a smaller specialized group that validated and prioritized the identified needs.

After the committees were formed and oriented to the needs assessment process, they began collecting the necessary data to identify needs using community surveys of teacher, students, and administrators, test results, and administrative information. After the data was collected it was validated, prioritized and published.

Summary of Previous Surveys

I. "Colorado Occupational Survey"

Approximately ten years ago Mesa College conducted a needs assessment survey enlisting the help of various local agencies and schools. Results of the survey were not published, therefore any conclusions drawn from the survey were not available.

II. "Grand Junction/Mesa County Chamber of Commerce Survey of Needs to Support Our Local Businesses."

On May 1, 1985 the Grand Junction/Mesa County Chamber of Commerce released the findings from a survey that had just been completed. The survey was conducted using 257 volunteer interviewers, each of whom underwent two hours of training. Each volunteer was given a list of 10 businesses to contact; 1108 businesses chose to participate in the survey.

Although specific types of training needs by occupations was not addressed, 125 businesses did indicate that they needed assistance with training of employees.

In addition, 207 businesses did indicate that they needed additional support from Mesa College.

III. Occupational Supply and Demand Matrix. 1978-1983. Colorado Western Slope Planning Region.

In March of 1979 a report was prepared that dealt with occupational supply. The report was published by the State Occupational Information Coordinating Committee (SOICC) in cooperation with Division of Occupational Education and Division of Employment and Training, Department of Labor and Employment.

The report was the joint effort of many persons involved in development of occupational information in the vocational education and employment and training fields in Colorado and Utah. Given the constraints in the current state-of-the-art for developing manpower statistics, the report was intended to be a "useful approximation of reality."

Many of the factors which are necessary to accurately depict occupational supply were not then available. Such factors as net occupational in-migration into the State, occupational transfers, availability of occupationally qualified re-entrants to the labor market and an accurate estimate of unemployment by occupation are all factors which were not reflected in the report.

IV. Current Project

As noted earlier in this report, state occupational program administrators do not have a universally accepted system for determining needs that can be used in planning. The common theme that did come from administrators who are using a proactive (rather than reactive) approach to needs assessment is that of administrative involvement with local chamber of commerce and economic development agencies.

Legislation has been enacted in Arizona which mandates that The Department of Education, Employment and Training, and Job Service work together in planning, articulating and offering vocational education in that state thus avoiding duplication and proliferation while enhancing common standards and placement.

One would think that the private trade schools would have a good system developed for needs assessment. This was not so. Private trade schools look at employment data and placement records only. Their mission is different than that of the local community colleges or area vocational schools so they approach training on more of a national scope. They identify "pockets" of occupational needs and work those areas for placement of students. In addition they tend to stay in the service oriented occupations for training which are not as subject to labor market flucuation as are some of the more specialized occupational training programs.

DEVELOPMENT OF THE MODEL

In keeping with the objectives of the project several related objectives were also defined to help insure that the employer needs assessment process would provide information which was needed to form a common data base for vocational-technical education program planning that might be offered by any agency (in Mesa County). The specific objectives relative to developing the process were:

1. Identify primary sources of data related to employer and student needs that will assist policymaking strategy regarding vocational education.
2. Allow flexibility in the format for input data to facilitate any local adjustments by the users.
3. Create from available statistics a data base by which implementation of the assessment process could be accomplished simply and efficiently.
4. Outline a system for continuous data collection that will serve as an on-going process for updating the data base.
5. Avoid the need for continuous field survey and the duplication of work done by other agencies in the service delivery area.

Limitations to meeting the desired objectives may be caused by several existing conditions involved in data collection and dissemination.

The various existing systems capable of generating a flow of necessary information differ widely in subject content, coding procedures, territorial and regional parameters, and industry or occupational categorization. Although the scope of this project did not include describing the rationale for eliminating the various systems that were found to be unworkable, in order for the reader to appreciate the process of identifying available procedures that are compatible with the goals it is important to consider the following:

1. Population projections produced by the State Demographer (Department of Public Affairs, Business Information Center) are based upon census data, with migration and natural increases calculated by using historical data, and with constant values arbitrarily assigned as factors in the computations. The rapid change of events peculiar to Mesa County in the past four years dilutes the accuracy of data produced by such a procedure.
2. General economic trends that may be indicated by such variables as retail sales and sales tax revenue, total personal income and per capita income, total unemployment rates and total labor force are useful for economic profiles or long term observations, but not necessarily appropriate for current short term specific planning - unless relevent to population changes.
3. Many of the variables available from the demographic source are based upon data shared by the Bureau of Labor Statistics, Bureau of Economic Activity, Department of Revenue, and the Census Bureau. However, there is some inconsistency in reporting methods.

4. The Occupational Employment Outlook (Labor Market Information, Colorado Division of Employment and Training) presents a five year projection based upon a sample survey of thirty per cent of the total populayion of employers state or regionwide. A problem with utilization of these reports is the regional treatment of the data and the survey methods of statewide random selection. Mesa County data is incorporated into the "Western Area" compilation which includes no less than twenty five counties.
5. The quarterly Occupational Supply/Demand Outlook is prepared by the Research and Development Unit, Colorado Division of Employment and Training and is based upon approximately six hundred twenty five definitive occupations presented in D.O.T. (Dictionary of Occupational Titles) code form. The Employment Service Automated Reporting System (E.S.A.R.S.) produces the largest available source of supply/demand data. That is to say, applications by job seekers registered with Employment and Training are compared with job orders filed by employers. This is not a " point-in-time" report, but rather a quarterly report in a year-to-date format. Data is derived from unemployment insurance information and the "ES 202" procedure for measuring activity. Individual occupational titles are presented in an "over" or "under" supply format comparing applicants and openings. Additionally,

hourly wage rates for selected occupations showing minimum, average, and maximum pay is given based upon current placement.

Once again Mesa County statistics are placed in a territorial compilation area known as State Planning Region Eleven (See Appendix "B"). The data is not available in this publication by individual county.

6. The Annual Planning Information Report, Colorado Department of Labor and Employment (Division of Employment and Training) is a statewide comprehensive report dealing with several variables key to planning vocational programs. It includes economic, employment, and demographic data with industry and occupation illustrations. The data is presented either statewide, Denver/Boulder Labor Market Area, JTPA-SDA, or by county. The presentation depends upon availability of data from each of the defined areas. The Mesa College SDA is comprised of Mesa County and approximately one half of Garfield county and is included in the larger Office of Rural Job Training Balance of State SDA. This rural area includes forty five counties. Again, the data is provided in aggregate form for the entire area.
7. The JTPA SDA is consistent with Region 11 (four counties). State labor market information has not been converted to Planning Region dimensions and occupational planning reports are also consistent with this.

At this point it is meaningful to comment on the Larimer County model referred to earlier.

The ability of the Larmier County system to function has been primarily due to two conditions which existed prior to its development.

First, available data regarding job openings, wage rates, unemployment, specific occupations, placement activity, and future projections were conveniently concentrated for a single homogeneous county.

Second, the various users of the data were ready, willing, and able to share and modify the numerous applications of this data. The formation of the network designed for "one-stop-shopping", as it was called, was directly achieved due to this cooperative attitude. Employment and Training, JTPA, the County Job Service, and the area vocational school co-located a program to maximize cooperation for their collective purposes. It must be noted that the development of the Larimer County System was initiated during a time of progressive growth and consolidation of functions (i.e.; the CETA program personnel converted to JTPA program. The current Mesa situation is the opposite and therefore less conducive for networking and consolidation at this time. The facts concerning the results of the Larimer model are that services were actually increased and staff was reduced by approximately 50%. The reality in Mesa County

is that several agencies, with overlapping purposes, during a period of economic decline, are attempting individually to perform similar services mainly to "survive" (but not cooperatively).

8. Reports from surveys conducted by trade associations, economic development agencies, and the Chamber of Commerce should be supported and applauded. The literature review noted the recent survey by the Grand Junction/Mesa County Chamber of Commerce. Should this survey become an on-going activity, public education should offer financial, technical, and administrative support. By doing this, though, education should be able to add questions that would serve its planning needs. However, actual conducting of the survey should remain in the name of the Chamber. Investigation during this project led the researchers into many interviews indicating that successful survey responses are most likely obtained by private groups.

Findings regarding work force increases must be considered and adjusted as input to the suggested model. Caution must be used due to possible duplication with "job bank" figures created by the same employers filing job orders with JOB Services (CRJTS). The requests for additional support by the various businesses leads to possible programs in Mesa County not only at entry level, but also for upgrading of skills. In a declining population and economy this retraining or upgrading market deserves particular attention.

Certain information is needed in order to make valid decisions regarding termination or expansion of vocational education programs. This information must be derived from data that is gathered, analyzed, and consistently interpreted following process that will enhance reliability and thereby substantiate the decisions.

THE MODEL
FOR
ASSESSING EMPLOYER NEEDS

The general process for determining program direction on a regularily scheduled basis should involve the following components:

1. Identify region(s) into which trainees will likely go when seeking employment - local? region? state?
2. Current employer needs related to
   A. attrition - termination, retirement, career change
   B. economic change - expansion, reduction
   C. upgrading/retraining existing workforce
3. New business and industry
   A. potential number by titles of jobs
   B. skill/competency required
   C. projected staffing plan to full capacity
4. Potential student interests/needs/capabilities
   A. secondary sector
   B. adult
   C. unemployed-underemployed
5. General trends
   A. population decline - out migration
   B. population gain - in migration

Determining the <u>needs of employers</u> in terms of numbers of jobs and the skills required to perform those jobs is an important ingredient in

planning vocational-technical education courses or programs. With this information it is possible to predict just how much emphasis should be put on offering a training program initially, or continuing one that is already offered. Also, by ascertaining the skills and competencies needed by employees data obtained for this portion of planning should be utilized in curriculum development and design once it is decided that the program is to be offered. The intent is to ascertain job titles, levels of desired performance, and numbers of jobs at present and in the future. Information obtained must include current employment statistics as well as data from new business and industry.

Needs for upgrading and/or upgrading can also be discovered during this phase as evidenced by several things including continued/increased participation by employees and employers.

Possible predictions of this market can be identified through such localized reports as the recent Chamber survey if it can be amended. Mesa College staff should perform a follow up contact based upon this and other information. Promotional material regarding vocational programs should be furnished employers to be disbursed to employees.

A combination of carefully adjusted reports and publications available on employment by industry and occupation, as well as local data on general economic activity or from new business, utilized for estimating possible <u>future job openings</u>. The present dilemma for placement in the Mesa area is that of a large supply of available labor force participants who often have the advantage of maturity, experience, and qualifications. This factor, among others might influence program planning.

A survey conducted among students at specified grade levels in late junior high and again in high school will provide indicators relative to general intentions of the students toward future enrollment. It will also provide a data base which will show trends in how the ideas and attitudes of students change as they mature. Students showing preference for specific vocational courses will in fact establish their need for training. Those students who show individual interests that wander from existing vocational courses can be considered as possible leading indicators for new programs that might be developed if job opportunities exist. If new programs are not feasible these students should be provided counseling regarding alternatives.

A second survey of the population which will provide valuable information about personal vocational needs and interests is one that should be conducted among persons who are no longer in a formal secondary or post-secondary educational setting. Information obtained from this survey will provide such things as an indication of the pool of resources available among the out-of-school population, mobility, and needs for preparation of these individuals.

A means by which "what if" problem solving can be accomplished, should there be other than normal shifts in economic activity, is an important element of the planning process. The model should include means to illustrate the impact of change induced by economic factors as well as the quantitative and qualitative influences that in and out migration have on vocational planning.

Implementation of the Model; It was not the intent of the project to propose a complicated system of data collection. It was recognized that there were many sources of data and other information which were already available. As noted earlier, one of the purposes was to identify those sources of data which had relevance to planning for sound vocational education. While the implementation suggested may indeed sound overly simplistic it should be remembered that the system proposed recommends the use of information which is generally available to any who would want to use it. That is, with the exception of specific local information which, in the case of Mesa County, has been obtained with the assistance of the local Chamber of Commerce and the instruments used to obtain input from public school students and from adults. There are numerous instruments available which can be adapted for use at the local "individual" level. These should be examined and subsequently selected based upon the local situation.

The following steps are recommended as essential to conducting a comprehensive and reliable employer needs assessment program which will provide the basis for planning a total program of vocational education, including essential support services (See Appendix C). Most of the steps identified, though subject to local interpretation (for which a system should also be planned), rely on data which is collected and presented in a consistent manner and which is available statewide for use. The use of local data is suggested as a means of localizing the system, thus resulting in a system that can be used on a statewide or regional basis without endangering overall reliability.

I. Identify and subscribe to the concept of a single entity for coordinating activities essential to gathering, compiling, analysing, and presenting data. A central focal point for this is important. Without it each agency may be inclined to not want to use the entire assessment system, thus the purpose of a system designed to support cooperative and unified planning will be lost. This could be accomplished through and office of planning and research or some other similar agent which is already established or, if so agreed upon by all concerned, through a newly designed activity created for this purpose.

II. Establish a schedule. Assessment surveys need to be conducted on a regular basis. However, except in the case of new or expanding business or industry, or extraordinary economic activity there is not reason to conduct major assessment activity annualy if the "update" reports are used regularily. State agencies regulating vocational education in Colorado have a set schedule for program review that is aligned with the date of initial approval of each program. Within a school district, area vocational school or college one or more programs may be scheduled for review each year. Therefore, it will not be possible to use established program review schedules as a guide.

It is recommended that a period of not more than two and one-half years elapse between that comparable data sets are prepared and presented. Presentation should be timed so that it "fits" into the curriculum and budget planning processes of the schools so that the results can be used in a timely manner.

III. Employment information consists of selecting and using information from five main sources which include:

A. OCCUPATIONAL EMPLOYMENT OUTLOOK for the current five year period and quarterly updates. Source: Colorado Division of Employment and Training.

B. LABOR MARKET INFORMATION as compiled by all local Job Service offices. Source: Colorado Labor Market Information.

C. OFFICE OF RURAL JOB TRAINING for each local planning region; acts as an administrative and support unit to JTPA contractors/vendors. Source: In Grand Junction, Office of Rural Job Training - Planning Region 11.

D. SURVEY TO SUPPORT LOCAL BUSINESS. In Mesa County this is done by the Chamber of Commerce. It is planned that there will be an annual update of this survey. It is important that, in order for such a survey to be useful to a training agency, there be questions included which can help vocational educators plan meaningful programs which will benefit employers and students alike.

E. COLORADO LABOR MARKET INFORMATION DIRECTORY. This is a compilation in directory format, of a number of publications that are available. Data referred to in "B" above is but one of several types of labor market information presented which are gathered consistently throughout the state. Source: Colorado Labor Market Information.

IV. High school student and adult constituent information should be collected locally following a prescribed format, from at least two main sources which include:

A. STUDENT INFORMATION which includes interests of, for example, secondary level freshmen and seniors (exact instrument should be selected or designed locally), enrollment trends and other pertinent demographic data which would be beneficial in in planning.

B. ADULT NEEDS AND INTERESTS. Through a random survey a great deal of individual and local demographic information can be obtained which can be put to use in planning for the needs of students and matching those needs with the short and long range needs of employers.

V. Demographic information is an important element in planning and should consist of using specific variables such as population, employment rates, in and out-migration, labor force and others that are a part of the "PAS" system referred to previously in this report. Any of these "standard variables" can be inserted individually or collectively into the system as desired. Source: Colorado Department of Commerce and Development.

VI. Through the coordinated effort referred to in "I" above and with input from and advisory group assemble the data in a consistent format for use by administrators which includes:

A. Clientele information - numbers, needs, interests, abilities, mobility, present enrollment in vocational programs, drop-out/stopout rates, handicapped/disadvantaged and other.

B. Employer information - expansion, turnover, proficiencies desired and in general a derivation of numbers of employees for which there will be a need in both the short and long terms, as obtained from the several sources referred to above.

C. Demographic data which will help supplement the above and enhance the planning process.

VII. Administrators, with consistently interpreted data should then begin the planning process - plan, organize, staff, coordinate, budget, communicate, and evaluate, etc. on the basis of the data presented as it implicates the processes of identifying and recruiting students, vocational guidance and counseling, personal pre-employment development, vocational-technical training and education, general education and student placement. Every effort should be made to prevent duplication of training programs when possible so that the use of financial resources will be maximized and competiveness between training agencies, public, private and community based within a service area will be minimized when at all possible.

A P P E N D I C I E S

APPENDIX A

INTERVIEWEES

Job Service, Grand Junction, Al Huber

JTPA, Grand Junction, Bob McCormick

Office of Rural Job Training, Grand Junction, Joyce Clark

PIC, Grand Junction, Anita Cox

Chamber of Commerce, Grand Junction, Levi Lucero

Labor Market Information, Denver, Gene Rusho

Division of Local Government, Denver, Thomas Melancon

Co. Mtn. College, Glenwood Springs, Harve Telinde

Co. Northwestern, Rangely, Helen Denton

Northeastern, Sterling, Allen Meyer

Otero, La Junta, Jim Little

Pikes Peak, Colorado Springs, Don Goodwin

Pueblo, Pueblo, Anthony Zeiss

Arizona Western College, Yuma, Arizona, Ernie Lopez

Certified Welding School, Inc., Englewood

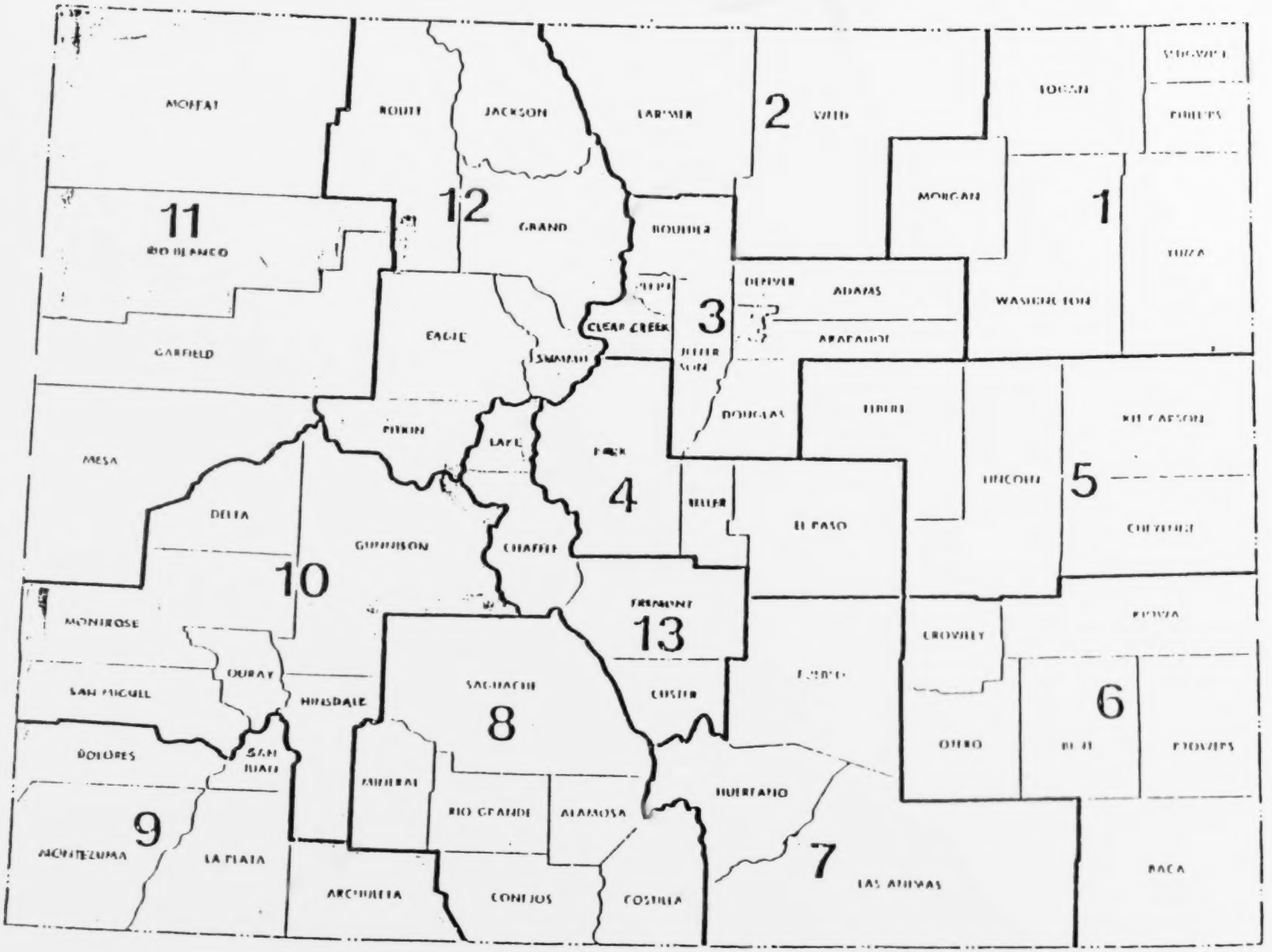
DIT, Denver, Windoll Gray

Mesa College, Grand Junction, Bob Stokes

District 51, Grand Junction, Stat. Dept for enrollment

Aims, Greeley, Paul Gaiser

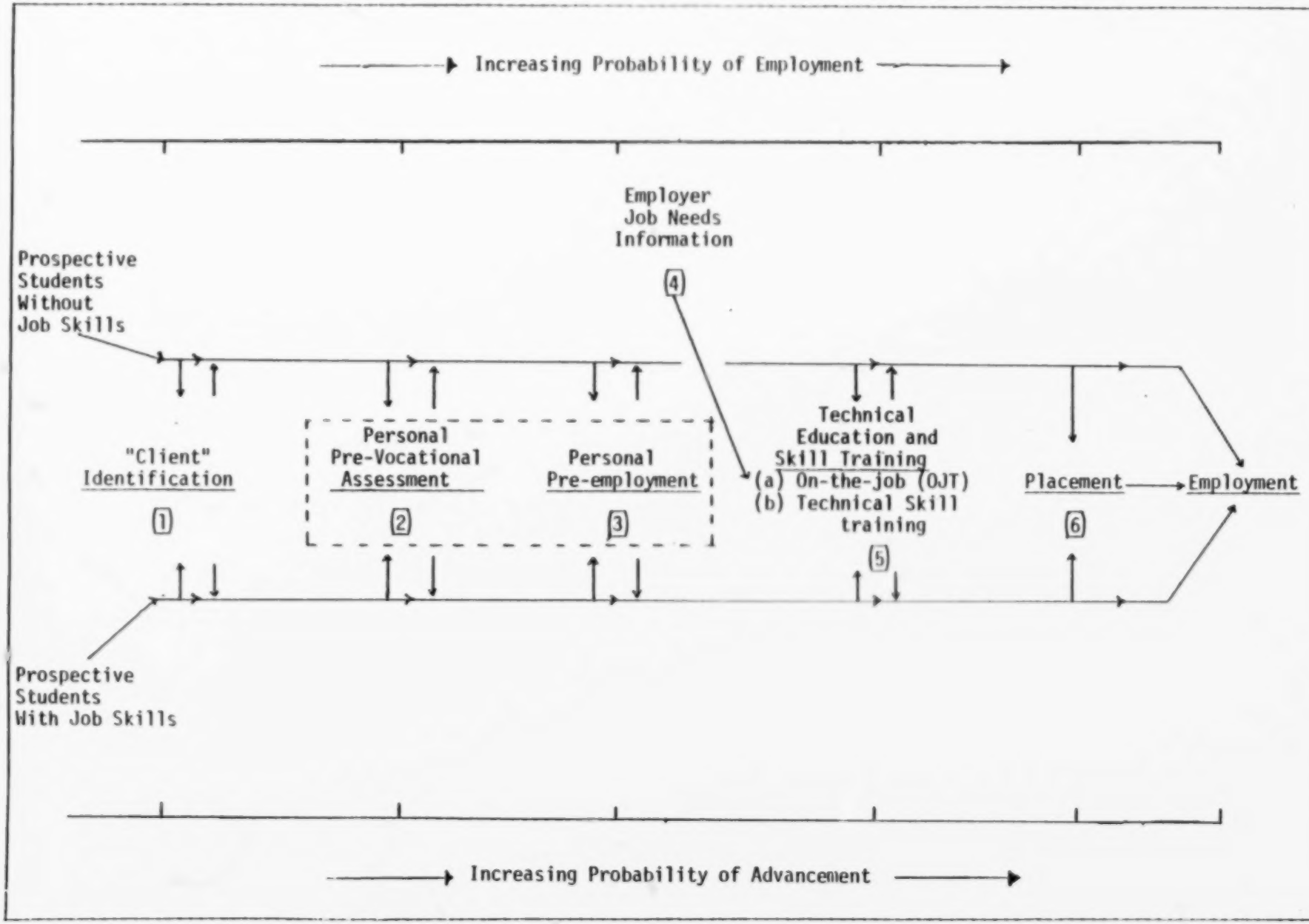
COLORADO PLANNING AND MANAGEMENT REGIONS



* PLANNING REGIONS FOR WHICH AVAILABILITY DATA IS COMPILED

BEST COPY AVAILABLE

STUDENT FLOW PATTERNS THROUGH A COMPREHENSIVE VOCATIONAL TECHNICAL EDUCATION PROGRAM



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